



Entergy Nuclear Operations, Inc.
Pilgrim Nuclear Power Station
600 Rocky Hill Road
Plymouth, MA 02360

June 02, 2017

U.S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, DC 20555-0001

SUBJECT: Licensee Event Report 2017-004-00, Secondary Containment Testing Led to Loss of Safety Function

Pilgrim Nuclear Power Station
Docket No. 50-293
Renewed License No. DPR-35

LETTER NUMBER: 2.17.036

Dear Sir or Madam:

The enclosed Licensee Event Report 2017-004-00, Secondary Containment Testing Led to Loss of Safety Function, is submitted in accordance with Title 10 Code of Federal Regulations 50.73.

If you have any questions or require additional information please contact me at (508) 830-8323.

There are no regulatory commitments contained in this letter.

Sincerely,

A handwritten signature in cursive script that reads "Joseph A. Hynek for".

Everett P. Perkins, Jr.
Manager, Regulatory Assurance

EPP/rb

Attachment: Licensee Event Report 2017-004-00, Secondary Containment Testing Led to Loss of Safety Function (4 pages)

2E22
NRR

cc: Mr. Daniel H. Dorman
Regional Administrator, Region I
U.S. Nuclear Regulatory Commission
2100 Renaissance Blvd., Suite 100
King of Prussia, PA 19406-2713

Mr. John Lamb, Project Manager
Office of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission
Mail Stop O-8C2A
Washington, DC 20555

NRC Senior Resident Inspector
Pilgrim Nuclear Power Station

Attachment

Letter Number 2.17.036

Licensee Event Report 2017-004-00

Secondary Containment Testing Led to Loss of Safety Function



LICENSEE EVENT REPORT (LER)

(See Page 2 for required number of digits/characters for each block)

(See NUREG-1022, R.3 for instruction and guidance for completing this form
<http://www.nrc.gov/reading-rm/doc-collections/nuregs/staff/sr1022/r3/>)

Estimated burden per response to comply with this mandatory collection request: 80 hours. Reported lessons learned are incorporated into the licensing process and fed back to industry. Send comments regarding burden estimate to the Information Services Branch (T-2 F43), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by e-mail to Infocollects.Resource@nrc.gov, and to the Desk Officer, Office of Information and Regulatory Affairs, NEOB-10202, (3150-0104), Office of Management and Budget, Washington, DC 20503. If a means used to impose an information collection does not display a currently valid OMB control number, the NRC may not conduct or sponsor, and a person is not required to respond to, the information collection.

1. FACILITY NAME Pilgrim Nuclear Power Station	2. DOCKET NUMBER 05000 293	3. PAGE 1 OF 4
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4. TITLE Secondary Containment Testing Led to Loss of Safety Function to Both Trains of Standby Gas Treatment System

5. EVENT DATE			6. LER NUMBER			7. REPORT DATE			8. OTHER FACILITIES INVOLVED	
MONTH	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REV NO.	MONTH	DAY	YEAR	FACILITY NAME	DOCKET NUMBER
04	05	2017	2017	- 004	- 00	06	02	2017	N/A	05000 N/A
									FACILITY NAME	DOCKET NUMBER
									N/A	05000 N/A

9. OPERATING MODE N	11. THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check all that apply)									
	<input type="checkbox"/> 20.2201(b)	<input type="checkbox"/> 20.2203(a)(3)(i)	<input type="checkbox"/> 50.73(a)(2)(ii)(A)	<input type="checkbox"/> 50.73(a)(2)(viii)(A)						
	<input type="checkbox"/> 20.2201(d)	<input type="checkbox"/> 20.2203(a)(3)(ii)	<input type="checkbox"/> 50.73(a)(2)(ii)(B)	<input type="checkbox"/> 50.73(a)(2)(viii)(B)						
	<input type="checkbox"/> 20.2203(a)(1)	<input type="checkbox"/> 20.2203(a)(4)	<input type="checkbox"/> 50.73(a)(2)(iii)	<input type="checkbox"/> 50.73(a)(2)(ix)(A)						
10. POWER LEVEL 97	<input type="checkbox"/> 20.2203(a)(2)(i)	<input type="checkbox"/> 50.36(c)(1)(i)(A)	<input type="checkbox"/> 50.73(a)(2)(iv)(A)	<input type="checkbox"/> 50.73(a)(2)(x)						
	<input type="checkbox"/> 20.2203(a)(2)(ii)	<input type="checkbox"/> 50.36(c)(1)(ii)(A)	<input type="checkbox"/> 50.73(a)(2)(v)(A)	<input type="checkbox"/> 73.71(a)(4)						
	<input type="checkbox"/> 20.2203(a)(2)(iii)	<input type="checkbox"/> 50.36(c)(2)	<input type="checkbox"/> 50.73(a)(2)(v)(B)	<input type="checkbox"/> 73.71(a)(5)						
	<input type="checkbox"/> 20.2203(a)(2)(iv)	<input type="checkbox"/> 50.46(a)(3)(ii)	<input checked="" type="checkbox"/> 50.73(a)(2)(v)(C)	<input type="checkbox"/> 73.77(a)(1)						
	<input type="checkbox"/> 20.2203(a)(2)(v)	<input type="checkbox"/> 50.73(a)(2)(i)(A)	<input checked="" type="checkbox"/> 50.73(a)(2)(v)(D)	<input type="checkbox"/> 73.77(a)(2)(i)						
	<input type="checkbox"/> 20.2203(a)(2)(vi)	<input type="checkbox"/> 50.73(a)(2)(i)(B)	<input type="checkbox"/> 50.73(a)(2)(vii)	<input type="checkbox"/> 73.77(a)(2)(ii)						
		<input type="checkbox"/> 50.73(a)(2)(i)(C)	<input type="checkbox"/> OTHER	Specify in Abstract below or in NRC Form 366A						

12. LICENSEE CONTACT FOR THIS LER

LICENSEE CONTACT Mr. Everett P. Perkins, Jr. - Regulatory Assurance Manager	TELEPHONE NUMBER (Include Area Code) 508-830-8323
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13. COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO EPIX	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO EPIX
X	BH			Y					

14. SUPPLEMENTAL REPORT EXPECTED <input type="checkbox"/> YES (If yes, complete 15. EXPECTED SUBMISSION DATE)	<input checked="" type="checkbox"/> NO	15. EXPECTED SUBMISSION DATE	MONTH	DAY	YEAR

ABSTRACT (Limit to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines)

On April 5, 2017, at 0030 hours [EDT] with the Reactor in the Run Mode at approximately 97 percent power, both trains of the Standby Gas Treatment System (SBGTS) were made inoperable during the performance of a surveillance test of secondary containment prior to the refueling outage,

With both trains of SBGTS inoperable while in the Run mode, this event is reportable per the requirements of Title 10, Code of Federal Regulations (CFR) 50.73(a)(2)(v)(C) and 10 CFR 50.73(a)(2)(v)(D), any event that could have prevented the fulfillment of the safety functions to "control the release of radioactive material" and "mitigate the consequences of an accident."

This event had no impact on the health and/or safety of the public.



**LICENSEE EVENT REPORT (LER)
CONTINUATION SHEET**

(See NUREG-1022, R.3 for instruction and guidance for completing this form
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		YEAR	SEQUENTIAL NUMBER	REV NO.
Pilgrim Nuclear Power Station	05000- 293	2017	- 004	- 00

**NARRATIVE
BACKGROUND**

The Pilgrim Nuclear Power Station (PNPS) Secondary Containment System (SCS) is designed, in conjunction with other engineered safeguards and nuclear safety systems, to limit the release of radioactive material during normal plant operations within the limits of 10 Code of Federal Regulations (CFR) Part 20 and to limit the release of radioactive material so that off-site doses from a postulated design basis accident will be below the guideline values in 10 CFR Part 100.

The SCS consists of four subsystems: (1) the Reactor Building, (2) the Reactor Building Isolation Control System (RBICS), (3) the Standby Gas Treatment System (SBGTS), and (4) the Main Stack. The Reactor Building completely encloses the primary containment system which includes the Drywell (containing the Reactor) and Torus (containing the Suppression Pool). The function of the RBICS is to trip the Reactor Building ventilation supply and exhaust fans, isolate the normal Reactor Building ventilation system, and provide initiation signals to start the SBGTS in the event of a postulated Loss of Coolant Accident (LOCA) inside the Drywell or a postulated fuel handling accident in the Reactor Building. The safety function of the SBGTS is to reduce the Reactor Building pressure to a minimum subatmospheric pressure of 0.25 inches of water to limit the ground level release to the environs of airborne radioactive materials so that off-site doses from a design basis fuel handling or LOCA will be below the guideline values stated in 10 CFR Part 100.

The SBGTS discharges processed gases to the Main Stack via underground piping. The Main Stack provides an elevated release point for the processed gases. The mission time for the SCS is 30 days.

PNPS Technical Specification (TS) 3/4.7.B.1 governs the operability requirements of the SBGTS. The specification requires that with certain exceptions, the SBGTS shall be operable during periods that include reactor power operation (RUN, STARTUP, and HOT SHUTDOWN modes), during movement of irradiated fuel assemblies in secondary containment, during movement of new fuel over the spent fuel pool, during CORE ALTERATIONS, and during operations with a potential for draining the reactor vessel. For reactor power operation, the specification allows a 7-day allowed outage time if one train is made or found to be inoperable for any reason provided the other train and associated diesel generator is operable and that if the system is not fully made operable within 7 days, the specification requires the initiation of a reactor shutdown and cold shutdown within the next 36 hours. If both trains are inoperable, the specification requires the reactor be in cold shutdown within 36 hours.

EVENT DESCRIPTION

On April 5, 2017, at 0030 hours [EDT] with the Reactor in the Run Mode at approximately 97 percent power, both trains of the SBGTS were made inoperable during the performance of a surveillance test of secondary containment prior to the refueling outage,

With both trains of SBGTS inoperable in the Run mode this event is reportable per the requirements of 10 CFR 50.73(a)(2)(v)(C) and 10 CFR 50.73(a)(2)(v)(D), any event that could have prevented the fulfillment of the safety functions to "control the release of radioactive material" and "mitigate the consequences of an accident."



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CAUSE OF THE EVENT

The direct cause of this condition was that Operations isolated SBGTS Trains A & B by placing both SBGTS fans in the OFF position at the same time. This resulted in SBGTS Trains A & B becoming inoperable during performance of procedure 8.7.3, Secondary Containment Leak Rate Test, in the Run Mode.

The Root Cause of this event is that the scheduling process used in the 1995-1997 timeframe to move the performance of the Technical Specification 4.7.C surveillance from the Cold Shutdown Mode to the Run Mode did not ensure a thorough and documented review of the change's relevance to license compliance or potential safety function impact and risk, as was required by PNPS procedure 1.8, Master Surveillance Tracking Program.

CORRECTIVE ACTIONS

Completed:

- 1] PNPS successfully performed procedure 8.7.3 Secondary Containment Leak Rate Test during Refueling Outage 21 prior to refueling.
- 2] As an interim action, the Operations Department issued a detailed Standing Order to ensure that if an activity is scheduled to be performed that disables both trains of a safety function that is required by Technical Specifications, to verify that the condition would be allowed by plant Technical Specifications for that mode of operation.

Planned:

- 1] Train operations personnel and Department Preventive Maintenance Coordinators on the fact that the elective or voluntary entry into a Limiting Condition for Operation Action Statement that results in the removal of a safety function is not allowed.
- 2] Revise procedure 8.7.3 and corresponding work control documents to state that the procedure shall be performed during each refueling outage as required by Technical Specifications Section 4.7.C.1.
- 3] Other corrective actions are being developed in accordance with the Corrective Action Program that will address potential extent of condition.

SAFETY CONSEQUENCES

There were no consequences to the safety of the general public, nuclear safety, industrial safety, and radiological safety due to this event. The actual consequences were a loss of safety function for the Secondary Containment System for approximately 49 minutes while performing the surveillance.

There was no adverse impact on the public health or safety.



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REPORTABILITY

With both trains of SBGTS inoperable in the Run mode, this event is reportable per the requirements of 10 CFR 50.73(a)(2)(v)(C) and 10 CFR 50.73(a)(2)(v)(D), any event or condition that could have prevented the fulfillment of the safety functions to "control the release of radioactive material" and "mitigate the consequences of an accident."

PREVIOUS EVENTS:

A review was conducted of previously issued PNPS LERs. The review focused on LERs that involved similar events where the SBGTS function was lost. This review identified similar events documented in:

- 1) LER 2012-003-00 "Both Trains of Standby Gas Treatment System Inoperable"
- 2) LER 2010-002-00 "Standby Gas Treatment Declared Inoperable After Discovery of Open Demister Door"
- 3) LER 2004-005-00 "Standby Gas Treatment System Inoperable due to Pneumatic Accumulator Leakage Rate"

REFERENCES:

CR PNP-2017-2900